Medical Causation Testimony in Texas: Possibility Versus Probability

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by

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THIS Article deals with the problem in Texas of proving causal connection between an occurrence or event and the present and future physical condition of a plaintiff. Historically, this has been a troublesome area of the law not only in Texas, but also in other jurisdictions where widely divergent decisions have resulted.[1] The range of judicial decisions has varied from holdings that testimony on causation, couched in terms of "certainty," is not admissible because it invades the province of the jury on an ultimate issue, to holdings that lay testimony without any, or in spite of, medical testimony is sufficient to raise the causation issue.[2] There has been a flurry of Texas cases in recent years dealing with the problem, with the Texas supreme court writing on the subject on at least five occasions since 1965.[3] The law on the subject as it existed prior to 1965 will first be considered; thereafter, the impact of the recent cases will be analyzed.

In approaching the cases on the subject, several distinctions should be kept in mind. Distinction should be made between the questions of admissibility of "possibility" testimony of a medical expert,[4] and the question of whether there is sufficient evidence, including the expert testimony, to support an affirmative finding of causal connection. Distinction should also be drawn between ordinary negligence cases, malpractice cases, and workmen's compensation cases since the proof required in each is not necessarily the same. Furthermore, the standard of proof may be different in a given fact situation regarding causation of a present condition as opposed to future consequences of the condition. Finally, different rules apparently are developing with respect to medical problems such as cancer or heart conditions.

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[1] Wigmore comments, in considering the possibility versus probability problems arising in expert opinion testimony, that it is an area "in which the subtle mental twistings produced by the Opinion Rule have reduced this part of the law to congeries of non-sense which is comparable to the incantations of medieval sorcerers and sullies in the name of Reason in law." 7 J. WIGMORE, EVIDENCE § 1976 (3d ed. 1940).

[2] *See* Diamond, *Opinion or Conclusion?—Evidence or Speculation?*, in TRIAL LAWYERS GUIDE 269 (I. Goldstein ed. 1958); Markus, *Semantics of Traumatic Causation*, 12 CLEV.-MAR. L. REV. 233 (1963). *See generally* Green, *The Causal Relation Issue in Negligence Law*, 60 MICH. L. REV. 543 (1962). *See also* Small, *Gaffing at a Thing Called Cause: Medico-Legal Conflicts in the Concept of Causation*, 31 TEXAS L. REV. 630 (1953). For a discussion of Texas cases on the subject, see Jordan, *Expert Testimony—Cause of Present Physical Condition*, 29 TEX. B.J. 805 (1966).

[3] Insurance Co. of N. America v. Kneten, 440 S.W.2d 52 (Tex. 1969); Parker v. Employers Mut. Liab. Ins., 440 S.W.2d 43 (Tex. 1969); Otis Elevator Co. v. Wood, 436 S.W.2d 324 (Tex. 1968); Insurance Co. of N. America v. Myers, 411 S.W.2d 710 (Tex. 1966); Hart v. VanZandt, 399 S.W.2d 791 (Tex. 1965).

[4] For discussion regarding admissibility of expert opinion, see 2 J. WIGMORE, EVIDENCE §§ 662, 663 (3d ed. 1940); 7 *id.* § 1976; Fisch, *Expert Opinions*, 18 BROOKLYN L. REV. 224 (1952).

I. Cases on Causation Before 1965

Ordinary Negligence Cases. Prior to 1965 it was clear that testimony regarding future effects or consequences of an injury or condition, as opposed to present condition (prognosis versus diagnosis), must be based on medical probability and that possibility testimony was neither admissible nor sufficient to raise the issue of causal connection. For example, in *Galveston, Harrisburg & San Antonio Railway v. Powers*[5] the plaintiff received injuries in a fall and on trial his attorney asked the medical witness "whether or not it is possible that years from now, as a result of that injury, that [a] man could become an epileptic.'"[6] The physician apparently answered that it was possible.[7] The supreme court reversed and remanded the case to the trial court, holding that it was error to admit the question and answer since they were based on possibility. The court in its opinion stated:

> The railroad company, being liable for the infliction of the injury on the party, would be liable for all the consequences flowing from that injury, including such as a jury might say, from the evidence presented to them, would with reasonable probability occur at some future time; but the company is not liable for results which may possibly occur in the future. . . . Neither expert witnesses nor the jurors may be turned loose in the domain of conjecture as to what may by possibility ensue from a given statement of facts. The witness must be confined to those which are reasonably probable, and the verdict must be based upon evidence that shows with reasonable probability that the injury will produce a given effect.[8]

With respect to cause of present condition, the law prior to 1965 was not clearly established. There was no authoritative line of cases either establishing the admissibility or sufficiency of "possibility" testimony, or requiring "probability" testimony. In one of the earliest cases dealing with this subject, *Texas Central Railway v. Burnett*,[9] the Supreme Court of Texas stated that "[t]he first and fourth assignments of error present the question whether the Court erred in permitting physicians who knew the condition of Mrs. Burnett to give their opinion as to whether her injuries were such as *would likely* result from such concussion as was shown, and the Court correctly received their evidence."[10] This "would likely" testimony seems to constitute reasonable medical probability. However, *Burnett* was later cited in *Galveston, Harrisburg & San Antonio Railway v. Grenig*[11] for the proposition that testimony as to possibilities can connect the accident to the injury.[12]

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[5] 101 Tex. 161, 105 S.W. 491 (1907).
[6] *Id.* at 492.
[7] *Id.*
[8] *Id.* at 492-93. *Accord*, Lentz v. City of Dallas, 96 Tex. 258, 72 S.W. 59 (1903); Gulf, C. & S.F. Ry. v. Harriett, 80 Tex. 83, 15 S.W. 556 (1891); St. Louis Sw. Ry. v. Moore, 161 S.W. 378 (Tex. Civ. App. 1913).
[9] 80 Tex. 536, 16 S.W. 320 (1891).
[10] *Id.* at 320 (emphasis added).
[11] 142 S.W. 135 (Tex. Civ. App. 1911), *error ref.*
[12] Three other cases seem to support the admission of possibility testimony: El Paso Elec. Co. v. Beckman, 89 S.W.2d 470 (Tex. Civ. App. 1935), *error dismissed* ("sometimes" there is an after effect); Gulf, W.T. & P. Ry. v. Abbot, 146 S.W. 1078 (Tex. Civ. App. 1912), *error ref.* ("it

A later supreme court case involving causation of present condition indicated that reasonable medical probability is necessary. In *Houston & Texas Central Railway v. Fox*[13] the plaintiff was injured when she was thrown to the floor by a sudden jerk or movement of a train. The defendant called as a witness a doctor who had examined the plaintiff on her application for life insurance subsequent to the accident. On cross-examination plaintiff's counsel asked whether "[s]he may have been suffering some pain at that time from the hurt she had that might have afterwards resulted in the condition *she is in now?*" The doctor answered, "It is conceivable, I suppose."[14] The defendant's motion to strike the question and answer was overruled by the trial court. In reversing the action of the trial court the Supreme Court of Texas reasoned that the doctor's testimony "could prove nothing more than that it was barely possible for such result to follow."[15] The court went on to state that "[t]he rule settled in this Court is: 'To justify the assessment of damages for apprehended further consequences of a present injury, it is not enough that such consequences may occur, but there must be a reasonable probability—that is, it must be reasonably certain that such consequences will ensue.' "[16] The court then cited cases which dealt purely with future consequences of a present condition as support for this rule.[17] It is obvious, however, that the question which lead to reversal in the instant case related to the *present* condition of the plaintiff at the time of trial.[18]

Medical Malpractice Cases. The law was fairly clear in Texas by 1965 that in every medical malpractice case medical testimony based upon probability was essential to establish both negligence and proximate cause, and that factual circumstances were irrelevant in its absence. One of the leading cases establishing this rule was *Bowles v. Bourdon*,[19] where very strong factual circumstances tending to show causation were present.[20] The issue involved in the case was whether a Volkmann's contracture of the left forearm of a four-year-old boy was caused by the negligence of the defendant in treating a fracture to the boy's elbow. The trial court entered an instructed verdict for the defendant after the plaintiff's evidence, which

might cause"); St. Louis Sw. Ry. v. Taylor, 123 S.W. 714 (Tex. Civ. App. 1909), *error ref.* ("could have produced").

[13] 106 Tex. 317, 166 S.W. 693 (1914).

[14] *Id.* at 695 (emphasis added).

[15] *Id.*

[16] *Id.*

[17] Galveston, H. & S.A. Ry. v. Powers, 101 Tex. 164, 105 S.W. 491 (1907); Lentz v. City of Dallas, 96 Tex. 267, 72 S.W. 59 (1903); Gulf, C. & S.F. Ry. v. Harriett, 80 Tex. 82, 15 S.W. 558 (1891).

[18] It should be noted that the possibility testimony in *Fox* was elicited on cross-examination of an adverse witness and certainly should have been admissible.

[19] 148 Tex. 1, 219 S.W.2d 779 (1949).

[20] Immediately following setting of an injured arm there was evidence of hemorrhaging, swelling of the arm, and lack of pulse. Within four hours after the elbow had been set the parents of the boy discovered that his hand was turning very blue and his fingernails purple, and his fingers and hand were cold. The parents allegedly called the doctor and reported this to him. A little over a month after the fracture, the boy was referred to a specialist who immediately began treatment for Volkmann's contracture, which was by that time visible in a claw hand and a considerable wasting of the muscles. The physicians called by the plaintiff testified that wrapping a bandage too tight could be a cause of Volkmann's contracture.

was affirmed by the court of civil appeals. The Texas supreme court affirmed on the ground that there was no evidence amounting to legal medical probability that the Volkmann's contracture was caused by any of the alleged acts of the defendant. The court held in regard to the statement of facts before the trial court:

> All it shows is that what respondent did was not a probable but only a possible cause of the contracture; that it was only one of several things that *could* have caused the injuries complained of. Therefore, this cause is ruled by the language of Circuit Judge Taft, in *Ewing et al v. Goode*, . . . 'when the burden of proof is on the plaintiff to show that the injury was negligently caused by defendant, it is not enough to show the injury, together with the expert opinion that it might have occurred from negligence and many other causes. Such evidence has no tendency to show that negligence did cause the injury.'[21]

Workmen's Compensation Cases. A long line of workmen's compensation cases established the rule that lay testimony and circumstantial evidence alone, even when contradicted by adverse medical testimony, could be sufficient evidence on the issues of the existence of disability, its duration (temporary or permanent), and its extent (partial or total). These cases generally did not involve a dispute regarding the *cause* of the disability or condition, but rather revolved around the question of whether and to what extent the disability or condition existed.

Typical of these cases is *Traveler's Insurance Co. v. Wade*[22] in which the jury awarded the plaintiff total and permanent disability for an alleged back injury. The plaintiff offered no medical testimony, but based his claim of total disability on his own testimony and that of his wife, his sister, and two friends. The defendant offered medical testimony from two physicians, one of whom was the plaintiff's family physician, which contradicted plaintiff's claim of permanent and total disability. The insurance company also offered motion pictures tending to impeach plaintiff's claim of inability to perform certain tasks. The court of civil appeals affirmed the trial court's judgment for plaintiff holding that the evidence was sufficient to support the jury's finding of permanent and total disability, and stated:

> Notwithstanding the general rule prohibiting a lay witness from expressing an opinion that injuries are total and permanent, it is well settled that the factual testimony of a claimant alone, or of other lay witnesses, will support a jury finding of total permanent disability. The jury may reasonably infer total and permanent disability from circumstantial evidence. And this is true though the lay evidence may be contradicted by the testimony of medical experts.[23]

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[21] *Id.* at 785. Another Texas supreme court case, Puryear v. Porter, 153 Tex. 82, 264 S.W.2d 689 (1954), held that medical testimony in terms of "would have," "which he had," "would give rise," "was caused," and "would cause or could cause" did present evidence of causal connection.

[22] 373 S.W.2d 881 (Tex. Civ. App. 1963), *error ref. n.r.e.*

[23] *Id.* at 885. *Accord*, Texas Employers' Ins. Ass'n v. Hamilton, 430 S.W.2d 285 (Tex. Civ. App. 1968), *error ref. n.r.e.* (permanent disability from back and leg injuries upheld on the testimony of claimant and two lay witnesses, with no medical testimony offered); Hartford Accident & Indem. Co. v. Ferguson, 417 S.W.2d 376 (Tex. Civ. App. 1967), *error ref. n.r.e.* (disability from back injury upheld on testimony of claimant and three lay witnesses, with no medical testimony offered);

In contrast, cases in which it was generally conceded or established that a particular disease or condition existed, but there was a dispute regarding whether it was causally connected with the alleged incident on the job, established the rule that possibility testimony combined with factual circumstances is sufficient to raise the issue of causal connection.[24] For example, in *Midwestern Insurance Co. v. Valentine*[25] the plaintiffs attempted to connect decedent's back injury and bruise with a subsequent diagnosis of severe essential hypertension, the immediate cause of death. The court held that the evidence clearly supported the answers of the jury on causal connection, even though the doctor only testified that a blow to the kidney *could* cause hypertension. The court stated: "Medical testimony is admissible as to the possibility that a condition already in existence was caused by a prior injury."[26]

In *Travelers Insurance Co. v. Fagan*,[27] the plaintiff sought to connect a draft from an air-conditioner focused upon her head with a condition of occipital neuralgia. A medical witness testified that exposure to the stream

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Fireman's Fund Ins. Co. v. Martinez, 387 S.W.2d 443 (Tex. Civ. App. 1965), *error ref. n.r.e.* (disability from back injury upheld on basis of claimant's testimony alone even though there was controverting medical testimony); Texas Employers' Ins. Ass'n v. Hoover, 382 S.W.2d 174 (Tex. Civ. App. 1964), *error ref. n.r.e.* (disability from back injury upheld on basis of lay testimony only, with no medical testimony offered); Texas Employers' Ins. Ass'n v. Smith, 374 S.W.2d 287 (Tex. Civ. App. 1963) (disability from back injury upheld where claimant testified and there was controverting medical testimony offered); Fidelity & Cas. Co. v. Moore, 333 S.W.2d 956 (Tex. Civ. App. 1960) (total incapacity from a back injury upheld on the basis of testimony by the claimant and his wife where the doctors for the insurance carrier did not ascertain whether or not the injury was permanent); American Gen. Ins. Co. v. Florez, 327 S.W.2d 643 (Tex. Civ. App. 1959) (total and permanent loss of use of an arm was upheld where claimant's testimony sustained the jury finding even though controverted by three doctors); Consolidated Cas. Ins. Co. v. Baker, 297 S.W.2d 706 (Tex. Civ. App. 1956), *error ref. n.r.e.* (total and permanent disability caused by back injury upheld upon basis of claimant's testimony even though controverted by expert medical testimony); Insurance Co. v. Anderson, 272 S.W.2d 772 (Tex. Civ. App. 1954), *error ref. n.r.e.* (total and permanent disability caused by injury to the arm and shoulders upheld on the basis of claimant's testimony); Texas Employers' Ins. Ass'n v. Hevolow, 136 S.W.2d 931 (Tex. Civ. App. 1940), *error dismissed, judgment correct* (total and permanent disability caused by leg injury upheld on basis of plaintiff's testimony where no medical testimony was offered); Oilmen's Reciprocal Ass'n v. Harris, 293 S.W. 580 (Tex. Civ. App. 1927) (permanent disability caused by hand injury upheld by claimant's testimony alone even though controverted by medical opinion). *Contra*, Travelers Ins. Co. v. Linder, 368 S.W.2d 797 (Tex. Civ. App. 1963), *error ref. n.r.e.* (finding of total and permanent disability due to back condition); Texas Employers' Ins. Ass'n v. Vineyard, 316 S.W.2d 156 (Tex. Civ. App. 1958) (finding of total and permanent disability due to low back injury); Texas Employers' Ins. Ass'n v. Moran, 261 S.W.2d 855 (Tex. Civ. App. 1953), *error dismissed* (finding of total and permanent disability due to twisting back injury).

[24] There was one group of workmen's compensation cases holding the evidence to be sufficient to raise the issue of causal connection where it is not entirely clear from the opinions of the court whether the medical testimony actually amounted to probability or only possibility. These cases involved very little discussion of the question whether possibility or probability testimony is required, but simply stated there was sufficient evidence, based on all of the testimony, including the non-medical testimony, to support an affirmative finding of causal connection. *See* Carter v. Travelers Ins. Co., 132 Tex. 288, 120 S.W.2d 581 (1938) (cerebral hemorrhage caused by lifting and straining); Standard Ins. Co. v. Thomas, 383 S.W.2d 447 (Tex. Civ. App. 1964) (cerebral stroke caused by lifting and straining on the job); Midwestern Ins. Co. v. Wagner, 370 S.W.2d 779 (Tex. Civ. App. 1963), *error ref. n.r.e.* (heart attack caused by strain or over exertion); Hartford Accident & Indem. Co. v. Grant, 346 S.W.2d 359 (Tex. Civ. App. 1961) (heart attack caused by exertion on the job); Texas Employers' Ins. Ass'n v. Morgan, 187 S.W.2d 603 (Tex. Civ. App. 1945), *error ref. w.o.m.* (leukemia caused by fall on the job); Federal Underwriters Exch. v. Polson, 148 S.W.2d 956 (Tex. Civ. App. 1941), *error dismissed, judgment correct* (heart attack caused by exertion on the job).

[25] 381 S.W.2d 957 (Tex. Civ. App. 1964).

[26] *Id.* at 959.

[27] 366 S.W.2d 885 (Tex. Civ. App. 1963), *error ref. n.r.e.*

of cold air *could* cause occipital neuralgia, or that "it is possible."[28] The court held the admission of such answer into evidence was not error and that there was sufficient evidence to support a finding of causal connection, even in the face of the insurance company's vigorous contention that the physical facts did not support such a finding.[29]

An exception to the general rule developed in cases involving specific types of diseases or conditions. In this line of workmen's compensation cases medical testimony based on reasonable medical probability was essential and the only evidence of probative value, factual circumstances not being material at all. These cases were based upon the reasoning that the origin, causation and aggravation of such specific diseases or conditions are "scientific fields wherein the average juror or layman does not possess the knowledge or information from which to draw his own conclusions; and must be guided by the opinions of experts who have acquired scientific information on the subject."[30]

One such specific condition or disease is cancer, and the cases involving the origin, causation or aggravation of cancer are typified by *Scott v. Liberty Mutual Insurance Co.*[31] In *Scott* the plaintiff sustained an injury on the job when something blew in his eye causing a burning sensation. At that time, on examination by an eye specialist, it was determined that he had a fleshy nonmalignant growth on his eye. The plaintiff again had difficulty with his eye almost two years later, and it was discovered that he had a tumor which was surgically removed, resulting in the loss of the eye. The plaintiff testified that he continually felt as if something was in his eye during that two-year period. Two physicians testified that the cancerous condition in the eye was not caused by or related to the incident on the job two years before. However, both physicians admitted that one theory of causation of cancer is that a continuous or chronic irritation of a nonmalignant tumor might cause it to become malignant or cancerous. On appeal from the trial court's instructed verdict for defendant, plaintiff contended that the factual circumstances, together with the medical testimony that there was one theory of causation compatible with such factual circumstances, were sufficient to raise the issue of causal connection. The court of civil appeals rejected the contention, holding that cancer does fall within the category of cases where expert medical testimony based on reasonable probability is required. The court concluded:

> [T]aking appellant's evidence in its most favorable light, he proved nothing more than that . . . the accident might possibly have been a contributing cause. Not only is such possibility contradicted by the expert opinion of his

[28] *Id.* at 887.

[29] *Accord*, American Gen. Ins. Co. v. Barrett, 300 S.W.2d 358 (Tex. Civ. App. 1957), *error ref. n.r.e.* (fall cause of subarachnoid hemorrhage); Aetna Cas. & Sur. Co. v. Isensee, 211 S.W.2d 613 (Tex. Civ. App. 1948), *error ref. n.r.e.* (abdominal strain cause of female problems and aggravation of anemia and heart condition); Safety Cas. Co. v. Malvoux, 204 S.W.2d 862 (Tex. Civ. App. 1947), *error ref. n.r.e.* (overheating aggravated syphilis and caused paresis); Traders & Gen. Ins. Co. v. Hill, 161 S.W.2d 1101 (Tex. Civ. App. 1942) (inhalation of cement and lime dust cause of undisclosed condition); Republic Underwriters v. Howard, 69 S.W.2d 584 (Tex. Civ. App. 1934), *error dismissed.*

[30] Scott v. Liberty Mut. Ins. Co., 204 S.W.2d 16, 18 (Tex. Civ. App. 1947), *error ref. n.r.e.*

[31] *Id.*

> own doctors, but in the absence of further evidence, does not, under the decisions, constitute any competent evidence of causal connection between the accident and the injury.[32]

Similar to the *Scott* case, but with stronger medical testimony and factual circumstances, is *Jacoby v. Texas Employers' Insurance Ass'n.*[33] There the deceased accidentally fell against a conveyor injuring his chest and fracturing a rib. At the time of the accident he was healthy, without any apparent illness. Despite medical treatment from his family physician the deceased continued to suffer pain in the chest and was hospitalized approximately five and one-half months later at which time the rib was removed. At the point of the fracture a cancerous growth was found to have developed. Further tests were made revealing that the deceased had cancer in numerous parts of his body, the primary source being in the kidney. The deceased's condition steadily worsened until his death approximately one and one-half years following the accident on the job. The family physician testified, in substance, that the injury on the job *could* and *probably* did weaken the physical resistance of the deceased to the ravages of the cancer and thereby hastened his death to some degree. He further testified that such an injury *might* also speed up the spread of the cancer to other parts of the body and *might* therefore cause death at an earlier date. Three other treating physicians, called by the defendant, testified that there was no relation between the injury and the cancer, and that the injury would not have hastened death or aggravated the cancerous condition. However, none of those three doctors would expressly deny that the hastening of death and spreading of the cancer by the injury was not a possibility. The court of civil appeals held that the evidence was insufficient to raise the issue of causal connection or that the injury was a contributing cause to decedent's death.[34] There was a strong dissent in the case primarily on the ground that the testimony of the plaintiff's family physician was sufficient, construing such testimony to constitute probability.[35]

An example of another disease to which the rule was held to apply is

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[32] *Id.* at 19.

[33] 318 S.W.2d 921 (Tex. Civ. App. 1958), *error ref. n.r.e.*

[34] The court attempted to base its holdings on a somewhat different point. It stated:

> We believe that the Courts of this State are committed to the proposition than an injury which does no more than weaken the physical resistance to disease is insufficient to constitute a producing cause, and that although the injury may have retarded or lessened the physical resistance of the injured employee to disease, pre-existing or thereafter contracted, unless the pre-existing disease itself is incited, aggravated or accelerated by the injury, or unless the injury is the producing cause of the after acquired disease, the injury cannot be a producing cause within the Workmen's Compensation laws.

Id. at 925. This statement of the Court is not relevant because the physician's testimony did indicate that the injury could possibly have affected the cancer by speeding up the spread of the cancer to other parts of the body.

Other cases holding that evidence that an injury merely reduced the resistance of the injured party, thereby causing a predisposition to some disease or ailment, is *not* sufficient to establish causal connection are: Texas Employers' Ins. Ass'n v. Burnett, 129 Tex. 407, 105 S.W.2d 200 (1937) (typhoid fever); Aetna Cas. & Sur. Co. v. Sparrow, 122 S.W.2d 286 (Tex. Civ. App. 1938), *error dismissed* (tuberculosis).

[35] 318 S.W.2d at 926.

found in *Lumbermen's Mutual Casualty Co. v. Vaughn.*[36] Plaintiffs alleged that decedent's fall through the ceiling of a building under construction was a contributing cause of a subsequent attack of poliomyelitis, the immediate cause of decedent's death. One physician called to testify by plaintiff stated, in answer to a hypothetical question whether the injury contributed materially to the boy's death, "I would say that it did."[37] He further testified that such an injury "would predispose the body to infection and I believe that this particular fall would predispose the boy to infection," and that "it is my opinion that trauma predisposes and did predispose in this case."[38] The doctor did admit, on cross-examination, that the boy might have had polio even without the occurrence of the injury. Three other medical witnesses, who had treated and seen the plaintiff prior to his death, all testified that death was caused only by poliomyelitis, which was not caused or contributed to in any way by the fall.

The court of civil appeals reversed the trial court's judgment for plaintiff holding that there was insufficient evidence of causal connection in spite of these fairly strong factual circumstances and the testimony of the plaintiff's doctor. After what appeared to be a tedious effort to hold against the plaintiff, the court concluded rather ironically:

> The case is a tragic one. The short length of time between the accident and death has called for an especially careful study of the evidence. It is not unnatural that the plaintiff in this case should feel that there was a causal connection between the injury and the death of her son. But the controlling questions presented are within the realm of scientific knowledge, and beyond the experiences of the lay witness.[39]

The rationale of these specific injury or condition cases is difficult to reconcile with the other workmen's compensation decisions establishing the general rule that possibility testimony is sufficient. Many of those cases involved equally as unknown or uncertain medical areas.[40] Indeed, the courts have not applied this rationale in all so called "traumatic cancer" cases. For example, in *Trinity Universal Insurance Co. v. Walker*[41] it was alleged that decedent suffered a heat stroke or heat exhaustion which caused or aggravated a brain tumor diagnosed two months later. He was operated upon and died shortly thereafter. The immediate cause of his death was blood clotting in the lungs resulting from the brain surgery. None of the medical witnesses professed to know the cause of tumors, but medical testimony was offered to the effect that since heat exhaustion harms the physical structure of the body, such harm to the physical structure of the body "would not do the brain any good;" that the heat stroke "could have" been an aggravation and the start of a sudden growth of a tumor; that the increased intra-cranial pressure resulting from the heat stroke

[36] 174 S.W.2d 1001 (Tex. Civ. App. 1943).
[37] *Id.* at 1002.
[38] *Id.* at 1003.
[39] *Id.* at 1006. *See also* Federal Underwriters Exch. v. Edwards, 146 S.W.2d 461 (Tex. Civ. App. 1940), which held possibility testimony was insufficient to establish causal connection between a pushing or lifting incident and a subsequently diagnosed "floating kidney."
[40] *See* note 9 *supra.*
[41] 203 S.W.2d 308 (Tex. Civ. App. 1947), *error ref. n.r.e.*

"could have" resulted in a ruptured blood vessel that in turn irritated the growth of the tumor; and that external factors "sometimes" arouse dormant and inactive tumors and cause them to become malignant and active.[42]

The court of civil appeals affirmed the trial court's judgment for the plaintiff. Admitting that the medical testimony was far from being conclusive and reflected a paucity of knowledge upon the subjects involved, the court held that "the jury was not limited to the opinion of the doctors, but was privileged to consider outside circumstances and conditions."[43] The court then concluded that there was sufficient evidence to support the finding of causal connection:

> The cause of tumor of the brain is unknown. It may lie dormant in the brain from birth until something causes its growth, which when once started, appears to be very rapid. It seems to be an accepted fact that heat stroke or prostration causes disturbances within the brain and since such disturbances can do no good to the brain, it seems very reasonable that harm results and not at all unlikely that the tumor was thus aggravated into rapid growth. At any rate there was ample evidence from which the jury could so find and we are bound thereby.[44]

Another such case was *Traders & General Insurance Co. v. Turner*.[45] In this workmen's compensation case, the plaintiff sustained a back strain and strain to his right testicle. The testicle became swollen and caused great pain, but the plaintiff returned to work about two weeks later. Shortly thereafter another accident occurred in which a pipe fell from plaintiff's shoulder and passed down the front part of his body where it struck the previously injured testicle. The organ again became inflamed and badly swollen. An operation was performed at which time it was ascertained that plaintiff had a malignant tumor of the cord to which the testicle was attached, a cancer known as seminoma. It was contended by the plaintiff that the cancer in the testicle area was caused by or excited or aggravated by the two injuries sustained on the job.

The court of civil appeals first stated that the issue of causal connection "depends upon the expert testimony of physicians, who were witnesses at the trial."[46] It then discussed the medical testimony, all of which was couched in possibility terms such as (1) trauma "can be" a contributing cause to start cancer cells growing that have been dormant in the past; (2) no one could say that such cells "would not" have given any trouble without trauma; (3) the testifying physician did not know of anything other than the circumstances related by counsel that could have caused the cancer cells to become active and develop into a cancerous growth; and (4) such a traumatic injury "may cause" cells to become active and develop into a cancerous growth.[47] The court concluded: "We think the

[42] *Id.* at 311-12.
[43] *Id.* at 311.
[44] *Id.* at 312. Trinity Universal was at least inferentially overruled in Parker v. Employers Mut. Liab. Ins. Co., 440 S.W.2d 43 (Tex. 1969).
[45] 149 S.W.2d 593 (Tex. Civ. App. 1941), *error dismissed, judgment correct.*
[46] *Id.* at 597.
[47] *Id.* at 598.

testimony referred to presents much more than a scintilla of evidence and removes the case from the realm of pure speculation and surmise as contended for by appellant."[48] However, the court in its opinion appeared to rely very definitely on the factual circumstances together with the possibility testimony to rule that the issue of causation was raised.[49]

II. Cases on Causation Since 1965

As has been seen, the Texas decisions prior to 1965 left this area of the law in a state of confusion and contradiction. Medical testimony based on probability was necessary as to future consequences of an existing injury in negligence cases, whereas generally no medical testimony at all was needed as to future disability in workmen's compensation cases. Possibility testimony was sufficient on causal connection in workmen's compensation cases, but probability testimony was necessary in malpractice cases and apparently in negligence cases as well. The courts required probability testimony without regard to factual circumstances in cases involving some specific diseases and not in others. Some types of cancer cases did not require probability testimony, and others did. The recent cases have, it is submitted, tended towards greater consistency. This is particularly true regarding whether possibility testimony of a medical expert is *admissible* as distinguished from the more difficult question of whether there is sufficient evidence to raise the issue of causal connection. Since discussion on admissibility of possibility testimony cuts across all three areas of ordinary negligence, malpractice and workmen's compensation, it will be treated first.

Admissibility of Possibility Testimony. The starting point is the recent case of *Insurance Co. of North America v. Myers.*[50] It involved an action for death benefits under the Workmen's Compensation Act in which the issue arose as to whether the evidence was sufficient to raise the issue of causal connection. Involved in that determination was the question whether the medical testimony amounted to probability or only possibility. In this regard the court stated "[r]easonable probability, in turn, is determinable by consideration of the substance of the testimony of the expert witness and does not turn on semantics or on the use by the witness of any particular term or phrase."[51] In other words, the court held that if the physician uses possibility language in expressing his opinion, such as "possibly," "may," "might," or "could have," it may still in substance

[48] *Id.*

[49] In Missouri-Kan.-Tex. Ry. v. Evans, 151 Tex. 340, 250 S.W.2d 385 (1952), the Texas supreme court reversed and remanded a judgment for plaintiff under the Federal Employer's Liability Act where plaintiff had recovered for injuries to his eye and after trial it was discovered, when the eye was surgically removed, that it was cancerous. Defendant filed a motion for new trial on the grounds of newly discovered evidence, and the supreme court stated that it was reversing "because we think this evidence would probably change the verdict upon another trial." *Id.* at 352, 250 S.W.2d at 393. The indication from the case is that probability testimony might be necessary to withstand the motion.

[50] 411 S.W.2d 710 (Tex. 1966).

[51] *Id.* at 713.

amount to probability testimony when the physician's testimony as a whole is considered.

Thereafter, the Texas supreme court in *Otis Elevator Co. v. Wood*,[52] elaborated on the *Myers* holding. In that negligence action the plaintiff attempted to connect a subsequent heart attack with an injury caused by the moving handrail of an escalator. The trial court had allowed the plaintiff's attorney, over objections by the defendant, to ask a hypothetical question of a physician as to whether the accident *could have* caused the injury to the heart, and the doctor answered that "it could have been a possible cause."[53] The Supreme Court of Texas held that there was no error in admitting such testimony. The court reasoned that to prevent the asking of questions and the admission of answers based on possibility into evidence would "undercut the principle that it is the substance, not the form, of the testimony that is determinative."[54] *Otis Elevator* should finally settle all doubts regarding the admissibility of possibility testimony, for under it *all* medical testimony should be received and admitted in any type of case.[55]

Ordinary Negligence Cases. There still have been no authoritative cases clearly establishing what standard of medical testimony is applicable in ordinary negligence cases. The leading recent case is *Otis Elevator*. Although it holds that possibility testimony is always admissible, as discussed above, it does not stand for the proposition that possibility testimony is sufficient to raise the issue of causal connection. In affirming the trial court's judgment against the elevator company for negligent design, the court indicated that there must be medical testimony which in substance amounts to reasonable medical probability that the injury caused the condition in question. However, the defendant did not raise this question on appeal. Consequently, the court specifically pointed out that although "[t]here is serious doubt that the substance of the doctor's testimony met the test of reasonable medical probability,"[56] the point was not before the court and defendant had in essence waived any complaint.[57]

In spite of the court's language in *Otis Elevator* regarding the necessity of probability testimony, it is unclear whether the court meant such testimony is essential in every negligence case, regardless of the factual circumstances, or whether the court simply meant that in *this* particular case

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[52] 436 S.W.2d 324 (Tex. 1968).

[53] *Id.* at 331.

[54] *Id.* at 332.

[55] *See* Pan American Fire & Cas. Co. v. Reed, 436 S.W.2d 561 (Tex. Civ. App. 1968), which held that the testimony of a physician did amount to reasonable medical probability under the *Otis Elevator* test.

[56] 436 S.W.2d at 332.

[57] The court indicated that waiver resulted from defendant's failure to (1) ask an opinion question based on reasonable medical probability on cross-examination; (2) request a special issue as to whether the injury caused the heart attack; (3) object to the charge or any special issues on the basis that there was insufficient evidence of causal connection; and (4) request a charge to the jury that they be instructed that they should not take into consideration the heart attack because there was no evidence that in reasonable medical probability the injury caused the attack. *Id.*

such testimony was required. Indeed, the factual circumstances were extremely weak in the instant case. The accident had occurred approximately one year and nine months prior to any symptoms or discovery of heart trouble. At that time the plaintiff was hospitalized for surgery to remove a breast because of a tumor, which was not alleged to be connected with the accident, and while in the hospital it was found that she had very definite myocardial damage compatible with the residuals of an infarct. It is certainly arguable that the court was relying on these weak factual circumstances in indicating probability testimony was necessary.

One civil appeals case decided shortly before *Otis Elevator* is also unclear regarding whether probability testimony is required in normal negligence cases. *Tyler Mirror & Glass Co. v. Simpkins*[58] was a personal injury case arising out of an automobile-truck collision. In addition to multiple injuries, the plaintiff attempted to connect four other conditions to the accident: (1) loss of eyesight due to traumatic cataract, (2) colon trouble, (3) gall bladder trouble, and (4) high blood pressure. There was medical testimony of the existence of the four conditions, but there was no medical testimony that such conditions were either possibly or probably caused by the accident. With regard to the traumatic cataract, the medical testimony did reveal that she had a cataract almost immediately after the accident, that such a condition usually results from a blunt injury or a puncture injury to a person, that the plaintiff did not have any other bruises or abrasions around her eye, and that it usually takes weeks, months or even a year for such a cataract to form from a blunt injury. The court reversed the trial court's judgment for plaintiff because of lack of sufficient evidence to connect the four conditions to the accident.[59]

The court indicated professional medical testimony was essential, stating: "Cataract, high blood pressure, colon and gall bladder deficiencies are diseases, and a layman does not possess the ability to determine the cause of such diseases without the benefit of some probative expert testimony."[60] However, it is not clear whether the court believed the factual circumstances of the case would have been sufficient to raise the issue of causal connection if there had been at least "possibility" testimony from a doctor. The court did emphasize in several places in the opinion that none of the doctors stated that the conditions probably were "or even could have been caused"[61] by the accident, thus indicating that possibility testimony together with the factual circumstances would have been sufficient. There was a dissent upon the ground that the testimony of the injured party[62]

[58] 407 S.W.2d 807 (Tex. Civ. App. 1966), *error ref. n.r.e.*

[59] At the trial stage, defendant requested four separate instructions to the jury that they should not take into consideration such conditions in assessing damages. The court refused the instruction and permitted a general damage issue to be submitted. The defendant's claimed error on appeal was that the trial court erred in refusing to submit its requested instructions since there was no evidence in the record that such conditions were causally connected with the accident and consequently the general damage issue allowed the jury to award recovery for those conditions. This is the basis for reversal by the court of civil appeals.

[60] *Id.* at 813.

[61] *Id.* at 811.

[62] She testified that she was in good health before the accident, but that after the accident

was sufficient to raise the issue of causal connection even in the face of the adverse medical testimony.[63]

Medical Malpractice Cases. The Supreme Court of Texas has recently written again on the subject of causation in the area of malpractice in *Hart v. VanZandt.*[64] The plaintiff alleged negligence against a doctor for failure to explore and remove a disc at the L5-S1 level in an operation where the doctor removed part of a damaged disc at the L4-L5 level. After the plaintiff's evidence, the trial court directed a verdict for the defendant and the court of civil appeals affirmed. The supreme court reversed, holding that fact issues of negligence and proximate cause were raised by the evidence. The court discussed the medical testimony and the factual circumstances at length, and then concluded, with very little discussion: "We hold that issues of negligence and causation have been raised that can only be resolved by the trier of fact, and that it was error for the courts below to sustain respondent's motion for peremptory instruction."[65]

Although the factual circumstances were indeed strong in this case,[66] the majority opinion drew a strong dissent on motion for rehearing on the grounds that the testimony of the various doctors on trial raised only the "possibility" of negligence and proximate cause, and was not based on "probability."[67] A close analysis of the medical testimony cited and discussed in both the majority opinion and the dissent reveals that a court could go either way as to whether such testimony, in substance (under the test later set out in the *Myers* case), constituted reasonable medical probability. The majority opinion, by placing extreme emphasis on the factual circumstances leading to the plaintiff's difficulties, seemed to consider such factual circumstances important to the issue of whether causation had been raised. Although the court did not directly so hold, the approach in this case could represent a liberalization of the prior rigid rule in medical malpractice cases which ignored factual circumstances and required expert medical testimony based on reasonable medical probability to establish causal connection.

However, a subsequent civil appeals decision apparently construed *Hart* as still requiring reliance on probability testimony regardless of factual

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she could not see out of the injured eye, and that before the accident she could do work, while after the accident she was dizzy and could not work. *Id.* at 812.

[63] *Id.* at 817.

[64] 399 S.W.2d 791 (Tex. 1965).

[65] *Id.* at 797.

[66] The defendant's diagnosis prior to back surgery was a probable ruptured disc at the L5-S1 level. The defendant made his incision at time of surgery above the L4-L5 level and removed a part of the disc at that level without exploring or looking at the L5-S1 level. Immediately following surgery, the plaintiff developed symptoms indicating continued nerve damage compatible with problems at the L5-S1 level. After seeing several doctors, including defendant, because of continued and increasing difficulty subsequent to his operation, another physician readmitted the plaintiff for surgery some 8 months later and it was found that there was compression of the nerve roots at the L4-L5 level, and also that the disc at the L5-S1 level was ruptured and was compressing the dura sac. Both discs were removed, but there was residual permanent nerve damage to the plaintiff.

[67] *Id.* at 799.

circumstances. *Gravis v. Physicians & Surgeons Hospital*,[68] in affirming a summary judgment in favor of the defendant, reaffirmed the rule that in a medical malpractice case it is necessary to prove by reasonable probability testimony of a doctor of the same school of practice as the defendant that the diagnosis or treatment complained of was (1) such as to constitute negligence, and (2) a proximate cause of the patient's injuries or condition. The plaintiff had complained that an adverse reaction resulted from an anesthetic used in surgery with strong factual circumstances to support the complaint.

Apparently, during extensive cross-examination of a number of medical witnesses, the most the plaintiff's attorney was able to elicit on the matter of causation was that a certain result *would* happen or that it was *possible*. There was also medical testimony that the adverse reaction was the result of a rare allergic response to the spinal anesthetic. The court stated that this is not sufficient proof in a medical malpractice suit and concluded: "Where proof discloses that a given result may have occurred by reason of more than one proximate cause and the jury can do no more than guess or speculate as to which was, in fact, the efficient cause, the submission of that choice to the jury is improper."[69]

Workmen's Compensation Cases. Several important workmen's compensation cases involving specific diseases or conditions have recently been decided.[70] In *Insurance Co. of North America v. Myers*[71] death was caused by a pre-existing malignant brain tumor allegedly aggravated by a cervical strain sustained on the job. Three treating doctors testified that the cervical strain did not, in reasonable medical probability, aggravate decedent's malignant brain tumor. One doctor testified in substance that it *could have* aggravated the tumor. The trial court entered judgment upon favorable findings by the jury for the plaintiff. The court of civil appeals affirmed, but the supreme court reversed, holding there was no evidence of causal connection between the incident and the alleged condition. The court held: "Causal connection in such a fact situation must rest in rea-

[68] 415 S.W.2d 674 (Tex. Civ. App. 1967), *rev'd on other grounds*, 427 S.W.2d 310 (Tex. 1968).

[69] 415 S.W.2d at 682.

[70] Several recent cases will not be covered in the text since they do not directly involve the issue of causal connection, but they should be mentioned. Three of them held, in accordance with the long line of cases decided prior to 1965, that a finding of permanent disability was supported by sufficient evidence where there was only the testimony of lay witnesses. Weicher v. Insurance Co. of N. America, 434 S.W.2d 104 (Tex. 1968) (where the court nevertheless held in favor of the defendant insurance company on another ground); Texas Employers' Ins. Ass'n v. Washington, 434 S.W.2d 340 (Tex. Civ. App. 1969), *error ref. n.r.e.*; Texas Employers' Ins. Ass'n v. Hamilton, 430 S.W.2d 285 (Tex. Civ. App. 1968), *error ref. n.r.e.* On the other hand, although adhering to the general rules set forth in the above cases, two other cases held that the particular lay testimony involved would *not* support a finding of disability. Travelers Ins. Co. v. Smith, 435 S.W.2d 248 (Tex. Civ. App. 1968), *error dismissed*; Montoya v. American Employers Ins. Co., 426 S.W.2d 661 (Tex. Civ. App. 1968), *error ref. n.r.e.* Other cases were similar to those cited in note 24 *supra* which held sufficient evidence existed without much discussion of whether the medical testimony was based on probability or possibility. *See, e.g.*, Aetna Cas. & Sur. Co. v. Scruggs, 413 S.W.2d 416 (Tex. Civ. App. 1967).

[71] 411 S.W.2d 710 (Tex. 1966).

sonable probabilities; otherwise, the inference that such actually did occur can be no more than speculation and conjecture."[72]

Unfortunately, it is not entirely clear how the court reached its conclusion. The court first stated that cancer aggravation cases involve "a question of science determinable only from the testimony of expert medical professionals."[73] This apparently means that other evidence is never sufficient to show causal connection absent medical testimony. The court reasoned that the long line of decisions in workmen's compensation cases holding "possibility" testimony together with factual circumstances to be sufficient was not controlling because the "causal base of cancer and the theory of its traumatic aggravation are subjects of dispute in the medical profession."[74] The court then proceeded to hold that there must be expert medical testimony grounded on reasonable medical probabilities, and that no lesser standard will be sufficient to raise the issue of causal connection. The court concluded that since the doctor's testimony in the instant case was based on possibility only, the evidence was therefore insufficient to support a finding of causal connection. This reasoning would appear to be logically consistent, but the court in the latter part of its opinion did in fact consider whether there was nonmedical circumstantial evidence sufficient to raise the issue of causal connection, and concluded:

> The nature of the injury suffered by Mrs. Myers and her death over ten months later from a pre-existing brain tumor, particularly in the light of her medical history, is not of sufficient probative force to support the inference of fact that the injury was a concurring, contributing or producing cause of her death. This is likewise true of the testimony of Dr. Dieste. In this state of the record causal connection is left to surmise or conjecture with the fact finder having to make an arbitrary choice between unproved conclusions.[75]

It could therefore be argued that the court, in spite of its statements to the contrary, suggested that had stronger factual circumstances been present, causal connection would have been established without the need of medical testimony.

Another recent cancer case, *Parker v. Employers Mutual Liability Insurance Co.*,[76] should be considered together with *Myers*. In it plaintiff sought a recovery for cancer allegedly caused by exposure to radioactive materials in the course of his employment. The medical testimony revealed that (1) it is possible for exposure to radiation over a long period of time to cause cancer; (2) any radioactive material *can conceivably cause* cancer on prolonged exposure; (3) persons exposed to radiation have a *higher than normal* risk of developing malignant changes but that in this particular situation no diagnosis of probability either way could be made; and (4) there was no way to determine what caused a particular

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[72] *Id.* at 713.
[73] *Id.*
[74] *Id.* at 714.
[75] *Id.*
[76] 440 S.W.2d 43 (Tex. 1969).

cancer. The supreme court held that this was not sufficient evidence on the issue of causation.

In its opinion the court made the sweeping statement that in Texas medical testimony must show that a "reasonable probability" exists that an act caused a present injury or condition.[77] The court did not restrict the statement to cancer or disease situations. Taken at face value it would apply to any type of injury or condition, thereby inferentially overruling the many prior decisions holding that possibility testimony combined with strong factual circumstances are sufficient to raise the issue of causation. It is submitted that this would be an incorrect interpretation of *Parker*. Rather the court, after reasoning that the medical testimony did not meet the requirements of *Myers* and so did not amount in substance to probability testimony, disregarded its statement of the law (as this writer suggests was done in *Myers*) by assuming, and perhaps even holding, that medical "possibility" testimony combined with factual circumstances can be sufficient to raise the issue of causal connection in a cancer case. After seemingly approving the prior cases upholding proof of causal connection by possibility testimony together with factual circumstances in "traumatic cancer" cases,[78] the court concluded that "[i]n this case, then, there is simply no sequence of events strong enough to establish a probable causal connection."[79]

The dissent underscores this interpretation of the majority opinion. It is based primarily on the contention that the factual evidence combined with the "possibility" testimony was sufficient to raise the issue of causation. In the dissenter's opinion, the evidence sufficiently negated other known possible causes of cancer, so that it was therefore probable that the plaintiff's cancer was caused by exposure to radiation. The dissent specifically pointed out that the majority admits probability can be based upon the evidence as a whole, including factual circumstances, "[y]et, in spite of the fact that radiation can cause cancer; the fact that Parker was exposed to radiation and no other cancer-producing cause and the fact that cancer resulted, the Court holds that such proof does not measure up

[77] The case cited by the court in support of the statement is Galveston, H. & S.A. Ry. v. Powers, 101 Tex. 169, 105 S.W. 491 (1907), discussed *supra* notes 5-8, and accompanying text. *Powers* does not, however, stand for the proposition for which it is cited, but rather holds that probability testimony is necessary as to future consequences of a present condition.

[78] 'Reasonable medical probability' from the whole evidence has arisen in some Texas cases which have allowed recovery for 'traumatic cancer' . . . . In those few situations allowing recovery, where an employment trauma and a cancerous condition coincide at the same point of the body, some courts have held that it is reasonably probable that the cancer arises out of the course of employment. In these cases, despite medical science's uncertainty as to the relationship between trauma and cancer, the trauma has been seen to be so related to the onset of cancer to allow a jury decision whether it was in fact the cause. In general, findings such as this occur when the trauma is an uncomplicated injury produced by a single mechanical force of which laymen can appreciate the consequences. Criteria have been developed by the medical profession to determine the probability of a causal relation between trauma and cancer. At a minimum these include: measurements of the authenticity and severity of the trauma; the origin of the cancer at the place of injury; and a 'reasonable relationship' between the date of the trauma, the appearance of the cancer, and the character or structure of the resulting growth.

440 S.W.2d at 48.

[79] *Id.*

to the standard of proximate causation the law requires to impose liability under the Workmen's Compensation Act."[80]

One recent civil appeals decision involving cancer seemed to adhere to the more rigid standard of proof requiring medical probability testimony. In *Texas Employers' Insurance Ass'n v. Gallegos*[81] the issue was the causal connection between a blow to the chest and pre-existing lung cancer. The plaintiff was struck by a heavy I-beam in the chest causing a large bruise just below the left rib cage. X-rays on the date of injury also showed an ill-defined mass on his lower right lung, which was later diagnosed as cancerous and removed by surgery. The plaintiff introduced no medical testimony on the question of causation. Defendant called two physicians to testify, both of whom stated that the cancer of the lung pre-existed the injury on the job and was not aggravated by the injury. The trial court entered judgment for the plaintiff on favorable findings by the jury, but the court of civil appeals reversed and remanded.[82] The appellate court, relying on *Myers*, distinguished the line of cases holding that medical evidence is not essential in workmen's compensation cases to establish disability on the ground that such cases have no application in cases involving the nature, origin and aggravation of cancer. The court held, in effect, that even in trauma situations, medical evidence based on probability is essential. *Gallegos* was decided before *Parker*, and the holding and approach of the court are not consistent with *Parker*'s inferential approval of the traumatic cancer cases.

Another recent major case involving a specific "disease" or injury is *Insurance Co. of North America v. Kneten*.[83] It was decided on the same day as *Parker* but involved a heart attack rather than cancer. The plaintiff sought total and permanent disability resulting from a damaged heart allegedly caused by an electric shock on the job. The plaintiff's physician testified the shock "could have" been a contributing factor to the heart attack, and that it was a "strong possibility" that it was the cause of the heart attack.[84] The insurance company sought reversal of the trial court's judgment for the plaintiff on the ground there was no evidence of causation. The supreme court affirmed, however, holding that the possibility testimony from the physician together with the factual circumstances of the case were sufficient to raise the issue of causation.[85]

At first glance *Kneten* would seem to clarify the uncertainty in *Myers* and *Parker* regarding whether possibility testimony together with strong factual circumstances will suffice, or whether medical probability testi-

[80] *Id.* at 50.

[81] 415 S.W.2d 708 (Tex. Civ. App. 1967).

[82] The case was remanded rather than rendered because there was some evidence of disability to the plaintiff from other causes not related to the cancer per se.

[83] 440 S.W.2d 52 (Tex. 1969).

[84] *Id.* at 53.

[85] The court points to the following items of evidence as raising the issue of causation: (1) direct evidence of the occurrence of the shock on the job, which happened while the plaintiff was wet with sweat in the heat and effort of his work; (2) a prompt onset of symptoms within a few minutes and distress progressing until the plaintiff was in a critical state within a few hours; (3) the testimony of the physician that the distress was in fact due to a heart attack; and (4) the testimony of the physician that what happened on the job could precipitate a heart attack. *Id.*

mony is required before the issue of causation is raised. The court, in fact, specifically distinguished *Myers* on the basis that there "[t]he plaintiffs failed to recover not so much for lack of a certain phrase of testimony from a medical expert as because the total proof was inadequate to support their claim."[86] Thus, the court recognized that it did not necessarily require medical probability testimony in *Myers* (and presumably also in *Parker*), although it can be recalled this simply is not clear from a reading of the *Myers* decision.

However, further confusion results from *Kneten* because, as correctly pointed out in the concurring opinion, the majority opinion is not clear as to whether the "possibility" testimony actually amounted to reasonable probability testimony under the *Myers* substantive test, or whether possibility testimony when combined with appropriate factual circumstances will suffice. The concurring opinion further stated that both *Myers* and *Otis Elevator* require medical probability testimony regardless of the factual circumstances, and concluded that the instant case should be grounded upon a holding "that in certain areas of workmen's compensation cases where there is a good deal of common and judicial medical knowledge, the jury will be permitted to determine causation without, or even in spite of, expert medical testimony . . . ."[87]

Two other recent cases, distinguished by the court in *Kneten* on the same basis as it distinguished *Myers*, are *Dotson v. Royal Indemnity Co.*[88] and *American Surety Co. v. Semmons*.[89] Both of these cases, contrary to the basis on which *Kneten* distinguished them, seemed to hold that medical probability testimony is essential. In *Dotson* the plaintiff attempted to connect an injury on the job with a subsequent diagnosis of acute coronary thrombosis. Apparently two treating physicians testified and although the court's opinion is unclear as to the exact nature of their testimony, the court did state that there was no testimony from either doctor based upon reasonable medical probability that the heart attack was sustained by reason of the injury. The jury found in answer to special issues that the injury was a producing cause of plaintiff's total and permanent disability. The trial court entered a judgment n.o.v. and the court of civil appeals affirmed, stating:

> In the instant case involving arteriosclerosis (hardening of the arteries), enlarged heart, blood clots and other items described by the medical witnesses as being a part of the aging processes and the effect of same upon the heart were matters which were peculiarly within the medical experts' knowledge and their unanimous findings were conclusive. These were matters of which a layman can have little, if any, knowledge. He can only guess or surmise. Mere speculation or conjecture is not sufficient.[90]

A close factual analysis of *Kneten* and *Dotson* indicates that the differ-

[86] *Id.*
[87] *Id.* at 54-55.
[88] 427 S.W.2d 150 (Tex. Civ. App. 1968), *error ref. n.r.e.*
[89] 413 S.W.2d 732 (Tex. Civ. App. 1967), *error ref. n.r.e.*
[90] 427 S.W.2d at 155.

ences between the two are not substantial.[91] There was, in fact, a prompt onset of symptoms in both cases, the only real difference being the diagnosis of the condition on or about the date of the accident in *Kneten*, as opposed to a diagnosis of the condition a little over two months after the incident on the job in *Dotson*. The real distinction between the two cases may in fact be that which is not present in the court's opinion in *Dotson*: namely, the physicians' testimony. Such testimony may well have been that the occurrence on the job was *not* a cause of the plaintiff's heart condition. But again, the opinion does not make it clear whether the physicians so testified, or whether they testified that it was in fact possible that the occurrence on the job could cause the heart condition.

Semmons is an excellent example of the extreme difficulty of a medical witness translating his thoughts into legal causation terms which are generally unfamiliar to the physician in the medical field.[92] The plaintiff attempted to connect a lumbar muscle strain with an aggravation of a preexisting, but dormant, syphilis condition. The physician called by the plaintiff gave considerable testimony relating to the causal relationship between the back strain and the onset of third degree syphilis, using such phraseology as "might have aggravated it," "whether the injury did hurry it up or not why that is purely a matter of conjecture," "there is a possibility it helped hurry it up," "it could do it," "it is possible that it could do it," "lots of times it does happen, although it would be impossible for me to just absolutely state," and "it would be probable that it could have helped hurry it up or aggravate it."[93] The court of civil appeals reversed and remanded a judgment for the plaintiff,[94] holding there was no evidence of causal connection between the back strain and the subsequent manifestation of third degree syphilis. In reaching its conclusion the court seemed to assume that medical testimony based upon probability is essential

[91] In *Dotson* the plaintiff had spent most of his working day unloading and loading a truck. Shortly thereafter, while driving the truck he had pains in his chest and later in the same day had another pain which required him to sit down and which caused his hands to become numb. During the next two months several similar episodes occurred, until the plaintiff sought medical treatment on approximately January 10, 1965 (the first incident having taken place on November 6, 1964). He was promptly hospitalized and a diagnosis of acute coronary thrombosis was made.

[92] It is clear from the quoted testimony of the plaintiff's doctor that he was laboring under the impression, frequently encountered with physicians, that the legal standard of probability is something more closely akin to certainty than to mere "likelihood" or "more likely than not." Even in the face of considerable urging and insistence by the plaintiff's attorney, the doctor kept replying in substance that it was simply impossible to tell for sure that the backstrain contributed to or hurried up the third degree manifestation of the dormant syphilis condition, though it was certainly possible that such a backstrain could so do. For excellent discussion of the near impossibility of any quantitative analysis of possibility versus probability language, and the differences in the thought processes between the medical and legal professions, *see* Conrad, *The Expert and Legal Certainty*, 9 JOURNAL OF FORENSIC SCIENCES 445 (1964); Markus, *Semantics of Traumatic Causation*, 12 CLEV.-MAR. L. REV. 233 (1963).

[93] 413 S.W.2d at 734-36.

[94] The defendant objected throughout the trial to the testimony from the plaintiff's doctor. The court submitted the usual definition of injury as including the acceleration or aggravation of any disease or condition previously existing. The defendant objected to this instruction because it allowed the jury to consider the effects of syphilis on the disability of the plaintiff, and then requested an additional instruction telling the jury not to include syphilis and its effect in its consideration of the injury. The trial court overruled all such objections and requests by defendant and entered judgment for the plaintiff upon favorable findings by the jury. The case was remanded rather than rendered because there was evidence of some disability from the backstrain itself.

to raise the issue of causation regardless of the factual circumstances.[95] The court made no analysis of the factual circumstances involved in the case, which were much weaker than in *Myers*,[96] but rather concluded that the testimony of plaintiff's doctor did not meet the requirements set forth in *Myers* and did not in substance amount to testimony of probability, and consequently constituted no evidence of causal connection.[97]

III. Conclusion

Some basic change in and a liberalization of rigid proof requirements on causal connection have occurred in the cases decided since 1965. Certainly it is now clear from *Myers* and *Otis Elevator* that medical opinion testimony, however expressed by a physician, is at least admissible. Presumably this applies in negligence, malpractice and workmen's compensation cases, regardless of the type of injury, condition or disease, and regardless of whether the testimony relates to present condition or future consequences or effects of the condition. This means, for example, that the line of decisions in negligence cases holding possibility testimony inadmissible as to future consequences or effects of an injury is no longer controlling. Defendants may urge that the admission of possibility testimony, particularly with regard to future consequences or effects, will be prejudicial where, after all the physician's testimony is in, it does not amount in substance to probability testimony and the factual circumstances are otherwise insufficient to raise causal connection. The court in *Otis Elevator* specifically pointed out what the defendant must do to erase the claimed prejudice.[98]

In neither *Myers* nor *Otis Elevator* does the court attempt to establish any guidelines for determining when and under what circumstances possibility testimony will in substance amount to probability testimony. How does an appellate court go about deciding when "could have caused" really meant "it probably did cause"? At this time there is no way to predict what the courts will do with this problem. It is believed that testimony should be sufficient under the *Myers* and *Otis Elevator* test even if couched in possibility terms as long as it relates to one of the several scientifically or statistically established possible causes of a condition, and does not constitute a mere guess in the sense that all things are possible. The dissent in *Parker* suggests that this should particularly be true where the factual circumstances tend to negate all other scientifically or statistically established possibilities as being a cause of the condition.

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[95] This decision appears to be contrary to Safety Cas. Co. v. Malvoux, 204 S.W.2d 862 (Tex. Civ. App. 1947), *error ref. n.r.e.*

[96] The lumbar muscle strain occurred in July of 1963. Plaintiff was thereafter treated by a doctor on several occasions who diagnosed the lumbar strain and also determined that the plaintiff had a preexisting dormant syphilis condition. Plaintiff was thereafter seen and treated by another doctor from February 6, 1964, primarily for central nervous system syphilis. Plaintiff did not have a seizure reflecting the third degree manifestation of syphilis until May of 1964.

[97] One decision subsequent to 1965 not discussed herein, but which should be noted, is Pacific Employers Indem. Co. v. Aguirre, 431 S.W.2d 33 (Tex. Civ. App. 1968), *error ref. n.r.e.*, which held causal connection established between physical exertion on the job and a cerebral aneurysm.

[98] *See* note 56 *supra*.

On the question of what evidence is sufficient to raise the issue of causal connection, the impact of the recent cases is not as clear. In the malpractice area, *Hart v. VanZandt* arguably stands for an approach which considers all the evidence, including possibility testimony where the factual circumstances are sufficiently strong. The theoretical basis for requiring probability testimony on the negligence issue in malpractice cases does not necessarily apply to proof of causation. This writer can see no logical reason for requiring any higher degree of proof of causation in malpractice cases than in other cases. Enumerable situations can be imagined where, assuming an act of negligence, the causal effect can be clearly and unmistakably demonstrated by factual evidence alone to the average juror. In short, proof requirements should be the same in malpractice cases as in all other cases, and it is hoped *Hart v. VanZandt* is a move, however slight, in that direction.

Although it is not yet clear, the trend in the recent cases, outside the malpractice area, is toward a consideration of the total evidence, both medical testimony and factual circumstances, in determining whether the evidence raises the issue of causal connection. *Parker* and *Kneten* demonstrate this trend more clearly than does *Myers*. Under this trend, where weaker factual circumstances are present, stronger medical testimony will be required; where stronger factual circumstances are present, weaker medical testimony will suffice or none may be required. This approach is far more sound than a rigid categorization of cases or situations, and the blind and unbending application of either possibility or probability rules to each category without regard to the factual circumstances. This writer is not unmindful of the difficulty inevitably encountered in determining from the whole testimony whether causation has in fact been raised. However, many legal rules are difficult in application and Texas courts have always had to deal with the question of sufficiency of the evidence in a myriad of areas. The problem should be no greater in the area of medical causal connection.

It can perhaps be argued that this approach places a heavier burden on the plaintiff where proof is necessarily more difficult. For example, in cancer cases it is evident that it is more difficult to secure proof of causal connection than in a back injury case. It is argued that more proof should be required in the back injury case, since proof is more easily and readily available, than in the cancer case, where proof is less easily available. In other words, the plaintiff ought to be expected to come forward with greater proof in the back injury case if there is any merit to his claim since more proof is easily available, and *vice versa* in the cancer situation. This argument is actually a criticism of the "preponderance of the evidence" standard of proof. Followed to its logical end, it simply asserts that in questionable and difficult areas, such as cancer, the burden of proof should be reduced to correspond with the difficulty of securing proof.

It is believed that this trend toward a consideration of the entire evidence, regardless of the manner in which medical testimony is phrased, applies

to both workmen's compensation and negligence cases. The majority opinions have not followed the suggestion in the concurring opinion in *Kneten* that the jury be permitted to determine causation without medical testimony in certain areas of *workmen's compensation* cases where there is a good deal of common and judicial knowledge, and *Parker* and *Kneten* neither one suggests this approach should be limited only to workmen's compensation cases and not to negligence situations. *Otis Elevator* casts some doubt on this conclusion, but as has been pointed out, it was not clear in that case if the court actually held probability testimony was essential in every negligence case, or only that it was essential in that particular case in light of the weaker factual circumstances. Indeed, *Otis Elevator*, a negligence case, based its holding partially on *Myers*, a workmen's compensation case. Certainly, there is no logical reason for a different standard in workmen's compensation and negligence cases. The rights of the defendant in the two types of cases to be protected from "speculation and conjecture" by the jury surely should be equally as strong in one as in the other.